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MOOCs: Marvellous or Moot for Exercise Medicine and Physical Activity?

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Massive Open Online Courses (MOOCs) have become increasingly popular over the past few years after successful early MOOCs such as “Circuits and Electronics” by American universities, Harvard and MIT [1]. In their simplest form MOOCs are vehicles for delivering information on a topic to an enormous number of people at any one time. Recent additions to the MOOC portfolio include MOOCs that offer education in Exercise Medicine and Physical Activity, one of these is McGill University’s MOOC “Exercise is Medicine” that was “created to provide the public with a reliable source of information and exposure to experts in the field” [2]. Whilst there are many positive aspects of these programmes, there is also a need for an informed debate focusing on some emerging themes related to these innovative e-learning programmes. In this brief, introductory blog we focus on these main themes and discuss whether or not MOOCs in the field of exercise medicine and physical activity have a genuinely useful place in educating the world’s ever-expanding population.

MOOCs: The positive story

An ancient Chinese proverb states “if you are planning for a year, sow rice; if you are planning for a decade, plant trees; if you are planning for a lifetime, educate people”[3]. Free access to education is a hot topic and in modern-day society. As we are increasingly aware of inequalities in all aspects of our lives, we want to allow everyone, regardless of background, access to this basic human right [4]. Some

MOOCs have been created in order to bridge the access gap for populations from more socioeconomically deprived regions [5]. There are a plethora of positives surrounding MOOCs, particularly the focus on the appeal to human curiosity and a more relaxed approach to learning. Peoples' choice in study topic over a given timeframe is key in developing and maintaining an intrinsic motivation to learn. Many education critics believe intrinsic motivation is often lacking in formal educational settings [6].

What are the educational themes and why are these important?

Despite advantages of MOOCs, the accompanying educational themes are worthy of further investigation. Firstly, yes, the whole idea behind these projects is that they provide equal access opportunity to education by breaking down financial and infrastructural barriers; however, in general, the evidence so far is that people accessing these courses tend not to be from more socioeconomically deprived demographics [7]. Many of the MOOC participants are university-educated with a desire to further their knowledge and advance in their current careers [8].

Another inherent glitch is the huge number of students that must be catered for. Some courses have had many tens of thousands of participants. In a formal education setting, physical or online, hundreds of tutors are required to cater to each student's needs. The number of tutors involved in MOOCs is often very small and may struggle to match the personalised educational experience that would be expected in formal education [8]. In addition, the lack of funding to employ a greater number of tutors to support participants and to develop educational materials provides yet another challenge to the success of MOOCs [9]. The long-term economic sustainability of MOOCs will rely on a clear business case. The impact of use of intellectual property by MOOCs has still to be widely debated.

Whilst many people enjoy the experience of engaging in a MOOC, there are challenges for participants. Embarking upon a MOOC can be intimidating for those new to this style of learning [6]. Lists of recommended reading, participation in discussion groups and completion of weekly assignments may cause information overload issues, with participants not knowing where to begin or how to manage their time accordingly. Not only may there be a lack of tutor contact, but the student may be left to rely on guidance from connecting with other MOOC participants and

gaining advice from their previous experiences. There is an assumption that students will be proactive and enthusiastic learners. However, if no-one contributes to discussions on a regular basis, the onus is on the individual to find their own way around the MOOC [6].

Future implications of MOOCs for modern-day higher education

Access to educational materials produced by highly-rated universities, can contribute to facilitating the economic, political, and social growth of developing countries. It would appear that MOOCs combine local access to e-learning that can be applied to practice in the field of sports and exercise medicine. Nevertheless, despite the access ideals behind MOOCs, it seems that one group may be benefiting more than the other from these courses: the developed world. Furthermore, although initial subscription to and enthusiasm towards MOOCs is often high, the attrition rate is higher than that of conventional higher education settings [10]. The impact of low staff-to-student ratios, the relatively low personal investment and the high intrinsic motivation necessary to learn may all contribute to a high drop-out rate. It appears that there may be an early uptake effect of MOOCs by those who already have already experienced further or higher education. Due to these limitations MOOCs could be viewed as valuable but not the sole solution to replace other initiatives that seek to increase access to quality education in developing countries. MOOCs may turn out to be complementary to rather than competing with the traditional education setting, physical or online. The inherent issues of financial and time resource constraints as well as the challenges to be overcome by MOOC participants need to be held in mind. In the field of exercise and physical activity MOOCs appear to be here to stay. It will be interesting to engage with the challenge of measuring their social, educational and financial impact long-term.

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